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FOREST RESOURCES IN SOUTHWEST ARKANSAS

Southwest Arkansas forests have more pine but less hardwood than they did in 1949, according to the recently completed third Forest Survey.

The current softwood growing stock of 3.4 billion cubic feet (which includes sound, well-formed trees at least 5.0 inches in diameter) represents a 30-percent increase since the second survey of 1949. Hardwood growing stock is 2.4 billion cubic feet; about 10 percent less than a decade ago.

Of the 22.1 billion board feet of sawtimber (International 1/4-inch rule) tallied on the new survey, 16.4 billion is softwood. The volume of softwood sawtimber increased 39 percent since 1949; hardwood sawtimber dropped 21 percent.

Commercial forest land in southwest Arkansas now totals nearly 7 million acres--78 percent of the total land area. The present acreage of forest land is 10 percent greater than at the time of the previous survey.

Upon completion of the current Statewide inventory, a comprehensive report on Arkansas forests will be issued. A summary of preliminary county data on forest acreage and timber volume for the 20 counties of southwest Arkansas is now available upon request. --H. S. Sternitzke.

POINT-SAMPLING TAPES AND CLINOMETERS NOW COMMERCIALY AVAILABLE

Specifications for a special tape and a clinometer secant scale have been developed at the Southern Forest Experiment Station. The resulting instruments may now be obtained from commercial sources, although many people have constructed home-made tapes from tables published earlier by the Southern Station. These instruments are especially useful for permanent point-samples.

The 100-foot steel tape can be stretched between sampling point and heart-center of a tree which appears doubtfully "in" or "out" when viewed through an angle-gauge such as a prism. Tape graduation at heart-center of the tree will read the minimum d.b.h. (in inches and tenths) of the smallest tree which could validly qualify with the specified angle-gauge--actual tree d.b.h. must be larger than indicated minimum for tree to be "in." Graduations on one side of the tape are appropriate for a gauge with Basal Area Factor = 10, Horizontal Point Factor = 1,833, Horizontal Line Factor = 120, Horizontal Distance Factor = 2.75. Regular feet-and-tenths graduations on the other side of the tape are also appropriate for much lighter sampling by a 286.6-minute angle-gauge with Basal Area Factor = 75.625, Horizontal Point Factor = 13,866, Horizontal Line Factor = 330, Horizontal Distance Factor = 1.

Prisms can be used without slope compensation and point-sampling tapes can be stretched parallel with the slope if the secant of the slope perpendicular to the contour through a given sample point is used to calculate the blow-up factor in the office for each tree tallied from that sample point. Prisms need not be tilted, and slopes to individual trees need not be determined. A convenient secant scale has now been built into a conventional clinometer right beside the familiar tangent or percent slope scale used for determining tree height. The secant scale can be used not

only to secure correction factors for point-sampling, line-sampling, and plot-sampling, but also for converting distances in a level plane to distances along a slope.

Recommendations for use of these two instruments in precise point-sampling are given on pages 26 and 27 of Occasional Paper 160. The Southern Forest Survey has adopted the procedure as standard. --L. R. Grosenbaugh.

SCALPING STIMULATES LONGLEAF GROWTH

Scalping the seedbed just before seedfall increased seven-fold the number of three-year-old longleaf seedlings making active height growth on a sandy site in southern Alabama.

Ten pairs of quarter-acre plots were established in October 1955. On one plot of each pair practically all vegetation except longleaf seed trees was destroyed by scalping with a snowplow-like implement mounted on a crawler tractor. Grass and other herbaceous vegetation was not removed from the other plots, but all hardwoods over 1 inch in diameter were eliminated with 2, 4, 5-T the following spring. Natural seedfall was supplemented by Morkit-treated seed at the rate of 3 pounds per acre in February 1956. The seed trees were cut in the autumn of 1956.

In January 1959, seedling performance was measured on 25 milacres (0.001-acre areas) within each quarter-acre plot. Eighty-six percent of the scalped milacres were stocked with 3-year-old longleaf seedlings, while only 36 percent of the unscalped milacres possessed seedlings. Almost 60 percent of the stocked milacres which had been scalped had seedlings starting height growth, while less than 20 percent of the stocked milacres which had not been scalped had seedlings in height growth.

These results show the value of site preparation that removes grass and other understory plants as well as scrub hardwoods from ridges of fairly deep sand in the longleaf pinehills. --Thomas C. Croker.

RECENT PUBLICATIONS

- Avery, Gene. *Photographing forests from helicopters*. Journal of Forestry, May 1959, pp. 339-342.
- *Grosenbaugh, L.R. *Should continuity dominate forest inventories?* Paper read at Short Course on Continuous Inventory Control in Forest Management, Univ. of Georgia, May 1959. 13 pp.
- *Guttenberg, Sam. *Timber demand changes and the South's small forest owner*. Paper read at meeting of Association of Southern Agricultural Workers, Memphis, Tennessee, February 1959. 5 pp.
- *Johnson, R.L. *Pruning cottonwood*. Southern Lumberman, April 15, 1959, pp. 28-29.
- McKnight, J.S. *Bright future for hardwoods*. Mississippi Farmer, May 1959, pp. 10-11.
- *Snyder, E.B. *Glossary for forest tree improvement workers*. Published cooperatively with Society of American Foresters. 22 pp.
- *Southern Forest Experiment Station. *Annual Report*. 72 pp.
- *Woods, F.W., Harris, H.C., and Caldwell, R.E. *Monthly variations of carbohydrates and nitrogen in roots of sand-hill oaks and wiregrass*. Ecology, April 1959, pp. 292-295.

*Copies are available at the Southern Station.